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TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

HEAVY DUTY INTERNATIONAL HARVESTER ENGINES

Exhaust emission control for International heavy-duty gasoline engines was incorporated into production with 1970 model vehicles (1969 model vehicles in California). The exhaust emission control system reduces the amount of unburned hydrocarbons and carbon monoxide expelled to the atmosphere by controlling the flow of contaminants from the engine's exhaust.

Control of exhaust emissions has been accomplished on engine models BD-308; RD-406, 450, 501; V, VS-401, 478, 549; FTC, FTCS-549 through use of modified carburetors, (also modified distributors on V-8 engines) and revised engine tune-up specifications without need for making changes to the basic engine. A brief summary of the modifications made to these engines is outlined below. For detailed information covering the emission control systems for the subject engines, refer to International Fleet Service Newsletter SLF 70-5.

Carburetor Modifications

In most cases the throttle fuel metering was made leaner by reducing main jet size or by changes to internal restrictions. Idle fuel mixtures are now being set on the lean side of best vacuum. External idle limiters are used to prevent setting idle mixtures too rich. Modifications of the power enrichments system have been made to most carburetors. This includes use of a two-stage power valve (or retiming of the single-stage power valve) in a power valve modulator system.

Distributor Spark Advance Revisions (V-8 Engines)

Part throttle vacuum spark advance systems have been eliminated from eight-cylinder engines (V, VS-401, 478, 549; FTC, FTCS-549). Six-cylinder engines (BD-308; RD-406, 450, 501) which do not use part throttle vacuum spark advance require no change.

1963 through 1969 model vehicles equipped with the subject model engines can be modified to incorporate exhaust emission control by removing the original carburetor and installing the new (modified) carburetor and readjusting the engine through the revised tune-up specifications. On eight-cylinder engines, the vacuum spark advance system must be deactivated by removing the distributor advance vacuum advance unit and a manifold vacuum outlet.



Part numbers of new carburetors applicable to various engine models are shown in Table #1 below. Refer to SLF 70-5 for engine tune-up specifications and carburetor adjustment procedures.

When installing the modified carburetor, the engine and emission systems should be inspected and completely tuned in accordance with specifications listed in SLF 70-5. Check distributor performance on distributor testor and make any adjustments or repairs required.

TABLE #1

LISTING OF CARBURETORS FOR IH HEAVY-DUTY GASOLINE ENGINES
WITH EXHAUST EMISSION CONTROL

<u>Engine Model</u>	<u>Carburetor Part Number</u>
BD-308	379 486-C91
RD-406:	
with manual transmission	379 487-C91
with automatic transmission	379 488-C91
RD-450:	
with manual transmission	379 489-C91
with automatic transmission	379 490-C91
RD-501:	
with manual transmission	379 494-C91
with automatic transmission:	
Except CO-190	379 495-C91
CO-190	379 496-C91
V, VS-401	391 939-C91
V, VS-478	395 139-C92
V, VS-549	400 939-C91
FTV, FTVS-549	400 941-C91

Because the amount of contaminants expelled with the exhaust varies with the mechanical condition of the engine, installation of the modified carburetor (and rated readjustment) on a worn engine, will not in itself, assure maximum reduction of emissions.

Particular attention is drawn to the fact that the above information is based on the best of our knowledge and belief at the time of the preparation of this report. The accuracy and completeness of the information is not guaranteed.

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